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Subject: Marine Life Protection Act Comments
Draft Monitoring Evaluation and Adaptive Management Framework

On 25 August 2005 I wrote you a letter regarding my comments on the *Master Plan Framework* (see references below) I was trying to meet the review deadline for the *"Draft Monitoring Evaluation and Adaptive Management Framework* (Framework), which I obviously missed. Since then I have added documents to my reading list and would like to make a few comments on the program as a whole.

In general, the documents I reviewed demonstrate a high level of editorial care but little scientific content. There are hints of science which occasionally arise, but these were likely included after heated encounters between people with a bio-statistical background and others who believe that the only way to "save" our seas is to close them to recreational and commercial uses. This apparent dichotomy is perhaps best illustrated in the "*Channel Islands Marine Protected Areas Monitoring Plan*" document. There is a glimmer of insight when one reads the section titled "*Sources of Uncertainty*" but this is soon shattered after reading the section on "*Effectiveness and Timeliness of MPAs*".

The fact that extremely good editing camouflages sections of scientific sanity leading to visions of grandeur is a shame. It is also a shame that this document, even though titled "*Monitoring Plan*" is really not a plan, but a discourse on MPA principles taken from other MPAs around the world which have marginal applicability to California. And apparently unverified, un-validated, non-sensitized computer models which may be of questionable utility. A Monitoring Plan is just that. Tell me what species you want to monitor, what specific capture method(s) you will employ (video is a "capture" method), where you will be sampling, the frequency, replicates, and how the data will be handled statistically. If one is planning on doing a multivariate analysis then one had better carefully think through the entire process before entering the field. There are a myriad of statistical combinations and permutations which can be addressed with a properly designed sampling program. But the design needs to be completed before the first sample is taken

Be that as it may, I'm not going to bore you with discussions of "natural abundance", or "natural diversity" Let's just say there are no such "beasts". Measures of the above are only valid for the period within which the measurements were taken. The way I read the *Monitoring Plan* only focal" species will be targeted. No one is systematically examining "natural" abundance

or diversity. When one is dealing with a dynamic situation such as the Channel Islands which draws organisms from several biogeographic regions the presence or absence of one or more species can result from causes not related to human activities.

The concept of "biodiversity" has great gut appeal. One will never know the full measure of diversity of anything unless everything in an area is removed, killed, and catalogued. When one talks of biodiversity is one talking about vertebrates, invertebrates, and algae? Do we identify all to the individuals to species? How does one determine if all of the "relevant" species have been catalogued? What does one biodiversity "index" mean? None of these questions has been addressed.

The subject of "Benchmarks" is broached in the Framework (page 49), as is a gratuitous reference to "statistical significance". The concept sounds wonderful to a layperson but not to anyone with a smattering of statistics. Setting changes at "20% greater" is meaningless. A change of 20 percent can be noise level while 1% can be statistically significant. I would be willing to venture that no one has a decent grasp on the "natural" range of variables being used to guide MPA closures.

Let us start at ground "zero". Why do MLPA staffers believe a given area is over used or over fished? Based on CF&G fishery statistics? Is the objective of the MLPA movement to restore depleted fisheries? Has not the CF&G fulfilled such objectives by setting bag, season, and size limits on a species by species basis? Should not season/bag/size limits be based on an understanding of the life histories of the managed species? Has not the CF&G demonstrated their ability to effectively manage a fishery from over exploitation using standard fisheries techniques? Coincidentally, this is also a criticism leveled by the Science and Statistical Committee (SSC) of the Pacific Fishery Management Council, who noted that the MPA authors *"appear to ignore the trade-off between reserves and traditional fisheries management"* (Final Environmental Document)

Appendix 1 of the Framework document discussed monitoring programs at three previously established MPA's: The Great Barrier Reef, Florida Keys, and the Channel Islands. These sites have little in common. One cannot compare coral reefs to kelp forests. The former can be decimated by boaters and requires decades to recover. Kelp forests are exploited resources that were regularly harvested and can replenish themselves over the course of a season. And the historic work of Wheeler North of Cal Tech on *Macrocystis* seems to have been overlooked

Table 1 (Appendix 4, "Summary of Biological Monitored Program in the Channel Islands MPA) provides a list of seven "Monitoring Activities". But there is no mention of how each of these items will be made "quantifiable" so that "statistical significance" can be achieved. Also, each of these seven Monitoring Activities relies on "focal" species. This being the case why, then, would one want to declare an entire area off limits when only selected components will be monitored? If one wants to study "focal" species then why not put "take" restrictions on these species? This "science" leap of faith requires tight linkages among the various components, linkages that are poorly understood, if understood at all. Ecosystems are "designed" to maximize energy flow through them. A decrease in "abundance" of one link (species) is typically assumed by a different species to maintain energy flow. Consider, if you will, the historic fluctuation between anchovies and sardines in the California Current System.

There is still no discussion on how these data will be quantitatively gathered **(A).** Without quantification discussions of statistical significance or ascertaining the significance of change is premature. Consider something as seemingly simple as capture methods. Were one counting elephants on the African plains one would not use a sampling quadrant of one meter square. Similarly, if one were interested in sampling invertebrate microfauna then one would not use a one-kilometer sampling grid. Sampling techniques must be standardized. Changing sampling methods and or sample sizes after program inception negates all previously gathered data.

I like the concept of exercising more positive control over our marine resources but find it very discouraging that closure is strongly favored over regulation. Good scientists often err and tend to believe that "correlation is causation". It is not. I urge you to review the history of giant kelp work in southern California as a classic example of good work which drew a completely erroneous conclusion (**B**) Or the success story associated with the management of the salt-water bass fishery (*Paralabrax* ssp) which was achieved through bag and size limits. Or, even more recently, the surprise appearance of "trophy sized" (40-50 pound) white sea bass and yellowtail off La Jolla in early December 2005 and again in April 2006. Or the history of sardines in Southern California. Grasp the history of over fishing and the collapse of the fishery and CDF&G's attempt to make a "hole" in the anchovy resource so the sardines could come back. When the historic over fishing hypothesis is understood then look at the history of sardine/anchovy abundance based on sediment cores in the Santa Barbara Basin. The difference is stark.

Let us manage our marine resources so that the greatest number of people can garner the maximum benefit and yet assure that these resources will be available to our descendants.

I would like to respectfully request that if the coastline is going to be blocked into a series of interrelated MPA's then there is little reason to retain "**fish**" in the California Department of **Fish** and Game. By supporting the MPA system closures the Department is abrogating it's responsibility as a regulatory agency. All that would be needed in the future are low paid poorly trained "agents" since, it can be presumed that anyone entering an MPA is in violation of the law

Finally, the California Constitutional states,

"The people shall have the right to fish upon and from the public lands of their State and in the waters thereof. … and no law shall ever be passed making it a crime for the people to enter upon the public lands within this State for the purpose of fishing…"

How does one get around the Constitution?

Yours truly,

<<<sent via email, no signature>>>

David W. Valentine, Ph.D.
Retired Marine Scientist

(**A**) There are a number of things which disturb me not the least of which is a potential tilt towards restricting data access. For instance, the Channel Islands Monitoring Workshop

(referenced below) states, “how do you collect and distribute detailed data without revealing sensitive or private information?” There can be ***no suggestion*** of retaining “private” data. All date collected under the auspices of the MPA program must be public and available in it’s entirety as unreduced (raw) data. There can be no “private” data collected with public funds.

(B) The decrease in *Macrocystis* coverage was initially attributed to elevated sea surface temperatures when, in fact, it was most certainly due to a decrease in nutrients, something which was highly correlated with water temperature and upwelling

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Documents Reviewed

California Constitution, Article 1, Section 25.

AB 993 as filed on 10 October 1999

October 2002
Final 2002 Environmental Document, Marine Protected Areas in the National Oceanographic and Atmospheric Administration’s Channel Island National Marine Sanctuary, Volume I.

February 2004
Channel Islands Marine Protected Areas, Monitoring Plan

10-11 August 2005
MLPA Central Coast Regional Stakeholder Group Draft Final Profile

August 15, 2005
Appendices to the Draft Master Plan Framework

August 22, 2005
Draft Master Plan Framework (“redline” edition)

January 24, 2006 Draft
Initial Draft management Plan Framework

January 24, 2006
Draft Monitoring, Evaluation and Adaptive Management Framework

Undated
Channel Islands Monitoring Workshop, Participant Worksheet Results